2025

(May–June)

PHILOSOPHY

(Elective/Honours)

(Logic)

(PHIL : 11)

Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer *any* **five** questions

1. "Logic is the science of correct reasoning." Do you agree with this statement? Give reasons for your answer. 1+14=15

2. What is a proposition? Distinguish it from sentence and judgement. 5+10=15

3. What do you understand by denotation and connotation? Show how both are inversely related. 5+10=15

4. What is a categorical syllogism? State and explain its roles. 5+10=15

5. Explain the rules for definition by genus and difference. 15

6. What is square of opposition? Explain the modern and traditional square of opposition. 3+12=15

7. Explain, with illustrations, the logical connectives. 15

8. Write short notes on any *two* of the following : 7½×2=15

(a) Truth, validity and soundness of argument

(b) Fundamental laws of thought

(c) Kinds of definition

(d) Classification of propositions

9. Symbolize any *five* of the following : 3×5=15

(a) Either the train is late and Tom misses his flight, or the train is on time and Tom catches his flight.

(b) If it is not true that both Mira and Sita attend the party, then neither Alice nor Betty will attend.

(c) The bus will start if and only if either the battery is charged or the engine is working, but if the battery is not charged and the engine is not working, then the bus will not start.

(d) Neither Lily nor Mina will attend the meeting if both Carol and Alice are absent.

(e) Either Alice or Bob will attend the meeting, but not both.

(f) If neither Alice nor Bob attends, the meeting will be cancelled, but if they both attend, then the meeting will be delayed.

(g) Unless Maldives' tourism declines, Russia raises the price of natural gas.

(h) If today is Tuesday or Friday, then we have a logic class today. Today is not Tuesday. Therefore, if we do not have a logic class today, then today is not Friday.

10. Construct the truth tables for any *three* of the following : 5×3=15

(i) $(p \vee q) \cdot (\sim p \cdot \sim q)$

(ii) $p \equiv (q \vee \sim r)$

(iii) $[p \supset (q \supset r)] \supset [(p \supset q) \supset (q \supset r)]$

(iv) $[(p \supset q) \cdot (\sim q \supset \sim p)] \equiv (p \equiv q)$

(v) $[(p \cdot (q \supset r))] \supset [(p \supset q) \cdot (p \supset r)]$

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